

REMARKS

Claims 45, 59 and 71 are amended. Claims 24, 45, 52-61 and 71-73 are pending in the application.

Claims 71-73 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner indicates that such rejection is based upon the claim 71 recited "the refractory metal comprising a first crystalline phase" lacking antecedent basis. The Examiner suggests changing such recitation to "the refractory metal silicide comprising the first crystalline phase". Without admission as to the propriety of the Examiner's statements, claim 71 is amended to incorporate the suggested change. Accordingly, applicant requests withdrawal of the § 112, second paragraph, rejection of claim 71 and dependent claims 72-73 in the Examiner's next action.

Claims 24, 52-54 and 59-61 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ma, "Manipulation of the Ti/Si Reaction Path by Introducing an Amorphous Ge Interlayer" (1995, pp. 35-37). Applicant notes that only pages 35-36 of this reference have been provided and requests page 37 to be provided with the Examiner's next action. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 24, 52-54 and 59-61 are allowable over Ma for at least the reason that Ma fails to disclose each and every limitation in any of those claims.

Independent claim 24 recites forming a titanium metal layer over a silicon containing substrate and after forming the titanium metal layer, providing compressive stress inducing

atoms into the titanium metal layer. The Examiner indicates at page 3 of the present Action that Ma discloses providing compressive stress inducing atoms comprising germanium into a titanium metal layer after forming the titanium metal layer. The Examiner is mistaken. Referring to the experimental details section, Ma clearly indicates sequentially growing a 200 Å thick Ge film followed by a 500 Å thick Ti film. Accordingly, Ma does not disclose the claim 24 recited forming a titanium metal layer and subsequently providing compressive stress inducing atoms into the titanium metal layer. Claim 24 is therefore not anticipated by Ma and is allowable over this reference.

Dependent claims 52-54 are allowable over Ma for at least the reason that they depend from allowable base claim 24.

As amended, independent claim 59 recites forming a titanium metal layer over a silicon containing substrate and subsequently implanting compressive stress inducing atoms comprising germanium into the titanium metal layer. The amendment to claim 59 is supported by the specification at, for example, page 11, lines 4-7. Independent claim 59 is allowable over Ma for at least reasons similar to those discussed above with respect to independent claim 24.

Dependent claims 60-61 are allowable over Ma for at least the reason that they depend from allowable base claim 59.

Claims 45, 55-58 and 71-73 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Kawamura, JP 08-139056. As amended, independent claim 45 recites forming a refractory metal silicide on a compressive stress inducing material which is over a first side of a substrate. The Examiner indicates at page 4 of the present Action that Kawamura discloses a compressive stress inducing material layer and forming a refractory

metal silicide on the compressive stress inducing material layer. The Examiner indicates that a gate insulating film formed of silicon dioxide has characteristics of a compressive stress inducing material layer and therefore the refractory metal silicides 6 and 7 of Fig. 1 as set forth in paragraph [0036] of Ma is formed on a compressive stress inducing material layer. Referring to Fig. 1(B) and paragraphs [0030]-[0036], applicant notes that Ma clearly indicates that metal silicide 6 is on a source/drain region 3 from which an oxidized film portion has been removed (paragraph [0034]), and metal silicide 7 is on a gate electrode 2. Neither silicide 6 nor silicide 7 is on the gate insulating film which the Examiner indicates as being the compressive stress inducing material layer. Accordingly, claim 45 is not anticipated by Kawamura and is allowable over this reference.

Dependent claims 55-58 are allowable over Kawamura for at least the reason that they depend from allowable base claim 45.

Claim 71 recites forming a refractory metal silicide on a compressive stress inducing material layer. Independent claim 71 is allowable over Kawamura for at least reasons similar to those discussed above with respect to independent claim 45.

Dependent claims 72-73 are allowable over Kawamura for at least the reason that they depend from allowable base claim 71.

For the reasons discussed above, claims 24, 45, 52-61 and 71-73 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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